

IN THE CLAIMS

Please amend claims 1, 2, 4, 5, 6, 7, 8, 9, 12, 14, 15, 16, 18, 19, and 22, and cancel claim 25, as follows:

1. (Currently Amended) A cordless telephone-to-sound card interface adapter for providing mobility to an end user during voice communications over the Internet, comprising:

a housing unit;

a hybrid transformer circuit carried ~~in~~ and contained within the housing unit;

~~the hybrid transformer circuit including:~~

~~a first hybrid transformer;~~

~~a second hybrid transformer coupled to the first hybrid transformer;~~

~~an impedance matching circuit coupled to the first and the second hybrid transformers;~~

a telephone jack ~~coupled to the hybrid transformer circuit~~ carried along a side edge of the housing unit for coupling to a cordless telephone system using a telephone cord;

a speaker plug cable ~~coupled to the hybrid transformer circuit~~ which extends from the housing unit and terminates in a 1/8 inch speaker miniplug which is configured to connect with a speaker jack of a computer sound card; and

a microphone plug cable ~~coupled to the hybrid transformer circuit~~ which extends from the housing unit and terminates in a 1/8 inch microphone miniplug which is configured to connect with a microphone jack of the computer sound card;

the hybrid transformer circuit including:

a first hybrid transformer having a single coil A inductively coupled to two coils B and C which are formed along the same core;

a second hybrid transformer having a single coil F inductively coupled to two coils D and E which are formed along the same core;

an impedance matching circuit;
a first terminal of the coil C and a first terminal of the coil E coupled to
the telephone jack;
a second terminal of the coil C coupled to a second terminal of the coil E;
first and second terminals of the coil A coupled to the speaker plug cable;
first and second terminals of the coil F coupled to the microphone plug
cable;
a first terminal of the coil B coupled to a second terminal of the coil D;
and
a second terminal of the coil B and a first terminal of the coil D coupled to
the impedance matching circuit.

2. (Currently Amended) The interface adapter of claim 1, ~~wherein the hybrid transformer circuit~~ which consists of passive components.

3. (Original) The interface adapter of claim 1, wherein the hybrid transformer circuit matches impedances from the cordless telephone system and the computer sound card for voice echo cancellation.

4. (Currently Amended) The interface adapter of claim 1, ~~wherein the speaker and the microphone plugs comprise 1/8" miniplugs~~ wherein the first and the second hybrid transformers have a turns ratio of 1:1.60.

5. (Currently Amended) The interface adapter of claim 1, wherein the first and the second hybrid transformers have a turns ratio of 1:1.60 and the impedance matching circuit has an impedance of between about 350 – 500 Ω .

6. (Currently Amended) The interface adapter of claim 1, ~~further comprising:~~

~~the first hybrid transformer including a coil A which is inductively coupled with coils B and C formed along the same core; and~~

~~the second hybrid transformer including a coil F which is inductively coupled with coils D and E formed along the same core~~

wherein the impedance matching circuit consists of a resistor having a resistance of about 467 Ω and a tolerance of 1% or less.

7. (Currently Amended) The interface adapter of claim 1, further comprising:

~~first mutually coupled coils A and C of the first hybrid transformer;~~

~~second mutually coupled coils B and D of the first hybrid transformer which are formed along the same core as the first mutually coupled coils A and C;~~

~~first mutually coupled coils E and G of the second hybrid transformer; and~~

~~second mutually coupled coils F and H of the second hybrid transformer which are formed along the same core as the first mutually coupled coils E and G~~

wherein the impedance matching circuit comprises a resistor having a resistance of about 467 Ω .

8. (Currently Amended) The interface adapter of claim 1, further comprising:

~~the first hybrid transformer including a coil A which is inductively coupled with coils B and C formed along the same core;~~

~~the second hybrid transformer including a coil F which is inductively coupled with coils D and E formed along the same core;~~

~~a first terminal of the coil C and a first terminal of the coil E coupled to the telephone jack;~~

~~a second terminal of the coil C coupled to a second terminal of the coil E;~~

~~first and second terminals of the coil A coupled to the speaker plug;~~

~~first and second terminals of the coil F coupled to the microphone plug;~~

~~a first terminal of the coil B coupled to a second terminal of the coil D;~~
~~a second terminal of the coil B and a first terminal of the coil D coupled to the~~
~~impedance matching circuit~~
wherein the impedance matching circuit consists of a resistor having a resistance
of about 467 Ω ; and
wherein the first and the second hybrid transformers have a turns ratio of 1:1.60.

9. (Currently Amended) The interface adapter of claim 1, further comprising:

~~first mutually coupled coils A and C of the first hybrid transformer;~~
~~second mutually coupled coils B and D of the first hybrid transformer which are~~
~~formed along the same core as the first mutually coupled coils A and C;~~
~~first mutually coupled coils E and G of the second hybrid transformer;~~
~~second mutually coupled coils F and H of the second hybrid transformer which~~
~~are formed along the same core as the first mutually coupled coils E and G;~~
~~a first terminal of the coil D and a first terminal of the coil F coupled to the~~
~~telephone jack;~~
~~a second terminal of the coil D coupled to a second terminal of the coil F;~~
~~a first terminal of the coil A and a first terminal of the coil B coupled to the~~
~~speaker plug;~~
~~a first terminal of the coil G and a first terminal of the coil H coupled to the~~
~~microphone plug;~~
~~a first terminal of the coil C coupled to a second terminal of the coil E;~~
~~a second terminal of the coil C and a first terminal of the coil E coupled to the~~
~~impedance matching circuit~~
wherein the speaker and microphone plug cables are combined along a single
cable strand.

10. (Original) The interface adapter of claim 1, further comprising:

wherein the first hybrid transformer is rotated 90° out-of-phase with the second hybrid transformer.

11. (Original) The interface adapter of claim 1, further comprising:
a Universal Serial Bus (USB) interface for supplying a bias voltage to the cordless telephone system through the interface adapter.

12. (Currently Amended) A cordless telephone-to-sound card interface adapter for providing mobility to an end user during voice communications over the Internet, comprising:

a hybrid transformer circuit ~~consisting of passive components~~;

a telephone interface coupled to the hybrid transformer circuit for coupling to a cordless telephone system;

a speaker plug ~~cable coupled to the hybrid transformer circuit~~ which terminates in a speaker miniplug which is configured to connect with a speaker jack of a computer sound card; and

a microphone plug ~~cable coupled to the hybrid transformer circuit~~ which terminates in a microphone miniplug which is configured to connect with a microphone jack of the computer sound card;

the hybrid transformer circuit including:

a first hybrid transformer having a single coil A inductively coupled to two coils B and C which are formed along the same core;

a second hybrid transformer having a single coil F inductively coupled to two coils D and E which are formed along the same core;

an impedance matching circuit having a resistance of about 467 Ω ;

a first terminal of the coil C and a first terminal of the coil E coupled to the telephone jack;

a second terminal of the coil C coupled to a second terminal of the coil E;

first and second terminals of the coil A coupled to the speaker plug cable;

first and second terminals of the coil F coupled to the microphone plug cable;
a first terminal of the coil B coupled to a second terminal of the coil D;
a second terminal of the coil B and a first terminal of the coil D coupled to the impedance matching circuit; and
the first and the second hybrid transformers having a turns ratio of about 1:1.60.

13. (Original) The interface adapter of claim 12, wherein the hybrid transformer circuit matches impedances from the cordless telephone system and the computer sound card for voice echo cancellation.

14. (Currently Amended) The interface adapter of claim 12, ~~wherein the hybrid transformer circuit comprises:~~

~~a first hybrid transformer;~~

~~a second hybrid transformer coupled to the first hybrid transformer; and~~

~~an impedance matching circuit coupled to the first and the second hybrid transformers~~

wherein the speaker and microphone plug cables are combined along a single cable strand.

15. (Currently Amended) The interface adapter of claim 14 12, further comprising:

wherein the first hybrid transformer is rotated between 45° – 135° out-of-phase with the second hybrid transformer.

16. (Currently Amended) The interface adapter of claim 12, ~~wherein the hybrid transformer circuit comprises:~~

~~a first hybrid transformer;~~

~~a second hybrid transformer coupled to the first hybrid transformer; and~~
~~an impedance matching circuit coupled to the first and the second hybrid transformers; and~~

~~wherein the impedance matching circuit has an impedance between about 457—
467 Ω~~

wherein the impedance matching circuit consists of a resistor having the
resistance of about 467 Ω and a tolerance of 1% or less.

17. (Original) The interface adapter of claim 12, further comprising:
a Universal Serial Bus (USB) interface for supplying a bias voltage to the cordless
telephone system through the interface adapter.

18. (Currently Amended) A hybrid transformer circuit for a cordless
telephone-to-sound card interface adapter, comprising:

a first hybrid transformer having a single coil A which is inductively coupled with
two coils B and C which are formed along the same core;

a second hybrid transformer having a single coil F which is inductively coupled
with two coils D and E which are formed along the same core;

an impedance matching circuit;

a first terminal of the coil C and a first terminal of the coil E for coupling to a
cordless telephone system;

a second terminal of the coil C coupled to a second terminal of the coil E;

first and second terminals of the coil A for coupling to a speaker jack of a
computer sound card;

first and second terminals of the coil F for coupling to a microphone jack of the
computer sound card;

a first terminal of the coil B coupled to a second terminal of the coil D; and

a second terminal of the coil B and a first terminal of the coil D being coupled to
the impedance matching circuit.

19. (Currently Amended) The hybrid transformer circuit of claim 18, ~~which consists of passive components~~ further comprising:

a speaker plug cable which terminates in a 1/8 inch speaker miniplug which is configured to connect with the speaker jack of the computer sound card;

the speaker plug cable for coupling to the first and the second terminals of the coil A of the first hybrid transformer;

a microphone plug cable which terminates in a 1/8 inch microphone miniplug which is configured to connect with the microphone jack of the computer sound card; and

the microphone plug cable for coupling to the first and the second terminals of the coil F of the second hybrid transformer.

20. (Original) The hybrid transformer circuit of claim 18, wherein the hybrid transformer circuit matches impedances from the cordless telephone system and the computer sound card for voice echo cancellation.

21. (Original) The hybrid transformer circuit of claim 18, wherein the impedance matching circuit has an impedance of between about 350 – 500 Ω .

22. (Currently Amended) The hybrid transformer circuit of claim 18, wherein the impedance matching circuit ~~has an impedance of between about 350—500 Ω and comprises~~ consists of a resistor having a resistance of about 467 Ω and a 1% tolerance or less, and the first and the second hybrid transformers have a turns ratio of 1:1.60.

23. (Original) The hybrid transformer circuit of claim 18, wherein an impedance matched to the cordless telephone system is about 450 Ω , an impedance matched to the microphone jack is at least 10K Ω , and an impedance matched to the speaker jack is about 600 Ω .

24. (Original) The hybrid transformer circuit of claim 18, further comprising:
a Universal Serial Bus (USB) interface coupled to one of the first terminals of
coils C and E for supplying a bias voltage to the cordless telephone system.

25. (Canceled)